

# ENTOMOLOGICAL NEWS

AND

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### A NEW SPECIES OF *ISCHNURA*. (Order Odonata.)

By E. B. WILLIAMSON, Carnegie Museum, Pittsburgh, Pa.

*Ischnura kellicotti* n. sp. ♂.—Upper part of head and eyes, and antennæ black; postocular spots blue, large, rounded and not connected; genæ blue; frons blue, black above and at the middle; clypeus black above, blue below; labrum blue, black at base; head (except around the occipital foramen) and eyes below pale blue.

Dorsum of prothorax black with the following blue: a transverse line on the anterior lobe; two round spots on the middle lobe; and the posterior margin of the posterior lobe. Propleuron blue. Thorax blue, black as follows: a wide mid-dorsal stripe; a humeral stripe which widens suddenly just posterior to the mesinfraepisternum, which it covers; a very narrow interrupted line on the posterior half of the first lateral suture; a narrow stripe on the second lateral suture, widening anteriorly to cover the metinfraepisternum; a line connecting these stripes posteriorly; under parts dark.

Wings hyaline; antecubitals 2, postcubitals 8; pterostigma: of front wings black ventrally, *blue* dorsally with the inner angle black and the outer angle pale; of hind wings pale brown. Legs black superiorly, blue and pale inferiorly.

Abdomen above metallic or bronze black, with blue as follows: a wide apical ring on 1; a large cordate basal spot and a wide apical ring on 2, the extreme base and apex of the segment black; pale narrow inter-

rupted basal rings on 3-7; an apical ring widening into a quadrate median spot on 7; all of 8 excepting a very narrow basal ring; all of 9, the blue narrowed at either side near the middle; two small round basal spots on 10, and the extreme tip of the elevated posterior margin of the segment which is also blue underneath. Sides of 1 and 2 blue and black; of 3-7 and 10 brownish and yellowish with blue tinges; of 8 and 9 black bordered below with blue. Dorsal posterior margin of the tenth segment moderately elevated and produced, the apex scarcely bifid.

Abdominal appendages black, resembling those of *I. verticalis* Say, but slenderer and longer. Superior appendages lamellate, sinuate, about half as long as the tenth segment, rounded triangular in form, the depth at base equal to the sides; the upper, outwardly rolled half scimitar-shaped in profile, and lying above and outside of the upper process of the inferior appendage; the lower, inwardly rolled half lying inside of the upper half of the inferior appendage. Inferior appendages longer than the superior; the lower outer two-thirds produced into a slender process curving downwards, outwards and inwards, the extreme apex turned upwards and inwards and tipped with a small shining tooth; the upper third produced upwards and backwards into a triangular lobe, about one-fifth as long as the lower process.

♀.—Similar to the male. Frons not black at the middle; postocular spots larger. Median lobe of prothorax with an additional small geminate spot in the middle. Thorax the same; wings hyaline; antecubitals 2, postcubitals 9; pterostigma on all the wings pale brown. Abdomen with the blue on 1 and 2 more extensive, on 2 the black is reduced to a triangular spot and narrow basal and apical rings; the apical ring on 7 not widened into a spot; 8 with a basal oblong spot on either side of the median line, and a dome-shaped basal spot, the double apex directed anteriorly; the blue on 9 much narrowed, the black extending across the dorsum basally; 10 narrowly blue. Sides of abdomen darker than in the male; 3 and 4 with a distinct, and 5 with an indistinct blue apical spot; 8 and 9 entirely black.

Valves bluish, the apex and vulvular process light colored, extending beyond the tenth segment. Abdominal appendages pale. The ventral apical spine on the eighth segment is short and acute, less prominent than in *I. verticalis* Say.

Length of abdomen ♂ ♀ 23 mm.; hind wing ♂ 16 mm., ♀ 18 mm.

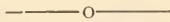
Round and Shriener Lakes, Whitley County, Indiana: September 2, 1897; June 7, June 24 and July 21, 1898. Named for Professor D. S. Kellicott, who first called attention to this species (footnote † to page 404 in "September Dragonflies of Round and Shriener Lakes, Whitley Co., Indiana," by E. B. Williamson, Indiana Geological Report for 1897).

This species has been taken in New Jersey by Mr. Calvert. He has kindly examined one of my male specimens, and it is by

his advice that I have referred the species to the genus *Ischnura*. I am doubtful about the female, described by the late Professor Kellicott in the footnote mentioned above, being an orange form. In that description the yellow rings on 3-7 are erroneously referred to as apical.

The following variations in the color of males of this species may be noted. The relative amounts of blue and black on frons, clypeus and labrum are variable. The two spots on the median lobe of the prothorax may be absent. The mid-dorsal and humeral stripes may be widened until the included blue is reduced in width to one-third the humeral stripe. The black on the dorsum of 2 may be reduced to a transverse line, or, on the other hand, the cordate spot may be reduced to a geminate spot, and the apical ring be very much narrowed. On 7 the apical spot may be separated from the apical ring. The narrow basal rings on 3-7 are always pale, and frequently yellowish in color. On 10 the two round blue spots may be wanting, may be of unequal size in the same specimen, or there may be four present, the additional ones being placed posteriorly and laterally to the other two. A teneral male was dull yellow and black in coloration, and had the pterostigma of all the wings pale brown.

In the females there is great variation in segments 1 and 2, and 8 and 9; the dorsum of 8 and 9 may be entirely blue, narrowed at the middle on 8, and at the base on 9.



## FURTHER NOTES ON THE NEW DRAGONFLY ISCHNURA KELICOTTI. (Odonata).

By PHILIP P. CALVERT.

(Supplementary to the preceding paper by Mr. E. B. Williamson.)

On August 28, 1898, at a pond about one mile east of Millville, New Jersey, where the road to Cumberland crosses the small stream known as Petticoat Branch, I observed a small dragonfly flitting a few inches above the water's surface from lily-pad to lily-pad. Its size and color suggested *Enallagma geminatum*, but, wishing to be sure, I captured an individual. Then I saw that I had a male *Ischnura* of a species unknown to me. I at once turned my attention to searching for the other sex, and in less than two hours had obtained six males, four black females and three orange females. So closely did they keep themselves